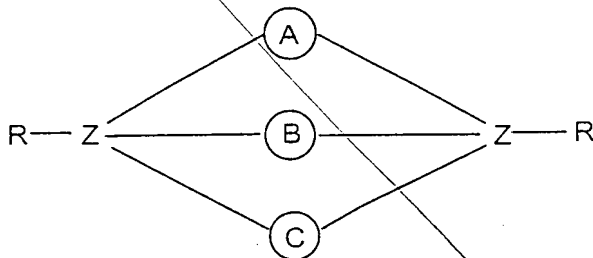


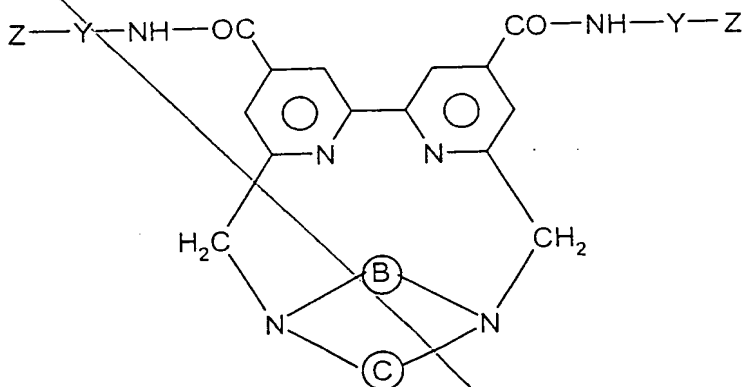
9. (Amended) The process as claimed in claim 1, characterized in that the rare-earth metal cryptate is bonded covalently to the oligonucleotide either directly or via a spacer arm.

10. (Amended) The process as claimed in claim 1, characterized in that said rare-earth metal cryptate consists of at least one rare-earth metal salt complexed with a macropolycyclic compound of formula



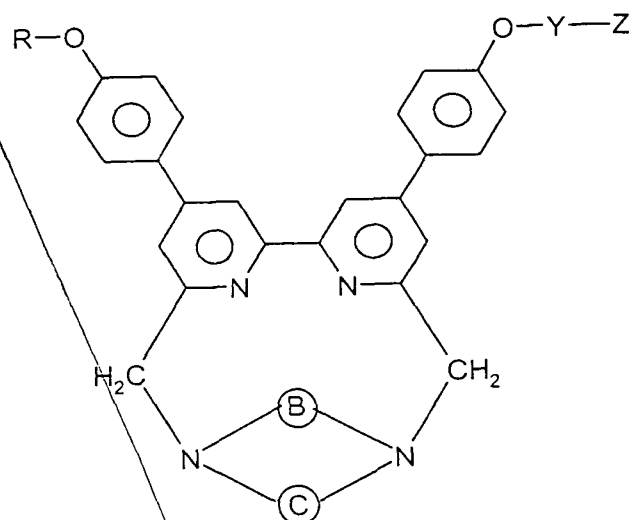
in which Z is an atom with 3 or 4 valencies, R is nothing or represents hydrogen, a hydroxy group, an amino group or a hydrocarbon-based radical, the divalent radicals (A), (B) and (C) are, independently of each other, hydrocarbon-based chains which optionally contain one or more hetero atoms and are optionally interrupted with a hetero macrocycle, at least one of the radicals (A), (B) and (C), also comprising at least one molecular unit or consisting essentially of a molecular unit, said molecular unit having a triplet energy which is greater than that of the emission level of the complexed rare-earth metal ion.

12. (Amended) The process according to claim 1, characterized in that the rare-earth metal cryptate consists of at least one rare-earth metal salt complexed with a macropolycyclic compound corresponding to one of the formulae II or III below:



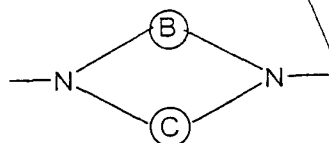
II

a3
Cont.

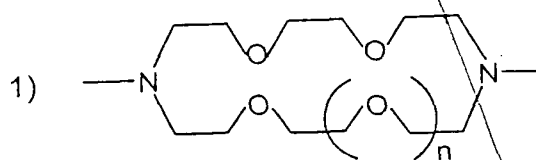


in which:

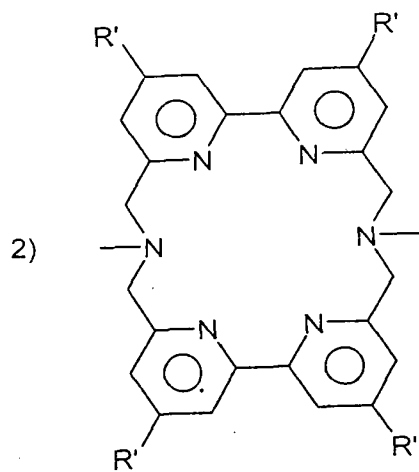
- the ring of formula



is one of the following rings:


$$n = 0 \text{ or } 1$$

[N₂O₄] macrocycle or cycle (22)
[N₂O₃] macrocycle or cycle (21)



bisbipyridine macrocycle

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a3 cont

-Y is a spacer group or spacer arm which consists of a divalent organic radical, chosen from linear or branched C₁ or C₂₀ alkylene groups optionally containing one or more double bonds and/or optionally containing one or more hetero atoms such as oxygen, nitrogen, sulfur or phosphorus or one or more carbamoyl or carboxamido group(s); chosen from C₅ to C₈ cycloalkylene groups or chosen from C₆ to C₁₄ arylene groups, said alkylene, cycloalkylene or arylene groups being optionally substituted with alkyl, aryl or sulfonate groups;

-Z is a functional group capable of bonding covalently to a biological substance;

-R is a methyl group or represents the group -Y-Z;

-R' is hydrogen or a group -COOR'' in which R'' is a C₁ to C₁₀ alkyl group and preferably represents a methyl, ethyl or tert-butyl group, or alternatively R' is a group -CO-NH-Y-Z.

13. (Amended) The process as claimed in claim 1, characterized in that the rare-earth metal cryptate is bonded to the oligonucleotide via a spacer arm consisting of a divalent organic radical chosen from C₁-C₂₀ linear or branched alkylene groups optionally containing one or more double bonds or triple bonds and/or optionally containing one or more hetero atoms, such as oxygen, nitrogen, sulfur, phosphorus or one or more carbamoyl or carboxamino group(s); C₅-C₈ cycloalkylene groups and C₆-C₁₄ arylene groups, said alkylene, cycloalkylene or arylene groups being optionally substituted with alkyl, aryl or sulfonate groups.

a4
Sub 15. (Amended) The method as claimed in claim 1, characterized in that the rare-earth metal cryptate is a europium cryptate.

Sub 17. (Amended) The process as claimed in claim 1, characterized in that the fluorescent conjugate is used as the only label or as one of the fluorescent labels in the assay.

a5
18. (Amended) The process as claimed in claim 1, characterized in that the fluorescent conjugate is bonded covalently to one of the members of a pair of molecules capable of binding specifically to one another, in particular a cellular receptor, an antigen, an antibody or a nucleic acid.

19. (Amended) The process as claimed in claim 1, characterized in that, in addition to said fluorescent conjugate, a fluorescent label comprising an acceptor fluorescent compound in the assay.

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